

January 1, 2010

**MAINTENANCE OPEN GRADED FRICTION COURSE**

**413 Maintenance Open Graded Friction Course**

**413.1 Description**

This work consists of an open graded friction course (OGFC) composed of crushed coarse mineral aggregate, asphalt binder and hydrated lime mixed in an approved hot mix asphalt plant and used to repair surface irregularities and patch existing or aged OGFC pavements. This mix does not contain polymer modification in the binder or stabilizing fibers in the mixture and is intended for limited use in patching OGFC pavements. **The use of this specification should only be used if small quantities of OGFC are needed to repair short sections of existing OGFC pavements (pavements not currently under contract). In the event that large quantities exceeding 250 tons are needed for repair, utilize section 409 of the Standard Specifications.**

**413.2 Materials**

**413.2.1 Aggregate**

Ensure that the crushed coarse aggregate used in the OGFC has an abrasion loss of not more than 55% when tested in accordance with AASHTO T 96 (C Grading). Use crushed coarse aggregate with two (2) or more freshly mechanically induced fractured faces on at least 90%, based on count, of the material retained on the No. 4 sieve in accordance with AASHTO T 335. The use of Limestone, Slag, Fine Aggregates, and RAP are not permitted in this mixture.

**413.2.2 Asphalt Binder**

Ensure that the asphalt binder used in the OGFC conforms to section 401.2.1.1 of the Standard Specifications. Use PG 64-22 for the Maintenance OGFC mixture.

**413.2.3 Hydrated Lime**

Ensure that the hydrated lime meets the requirements of section 401.2.1.3 of the Standard Specifications. Ensure that the blending of the hydrated lime is accomplished according to 401.4.11 of the Standard Specifications. Apply hydrated lime at a rate of 1.0%+/- 0.1% by weight of dry aggregate.

**413.3 Composition of Mixture**

**413.3.1 Mix Design Criteria**

Ensure that the mix design for the OGFC is prepared in accordance to SC-T-88 and has been reviewed and accepted by the Materials and Research Engineer prior to use of the material. Combine the aggregate, hydrated lime and asphalt binder in such proportions that the mixture is within the following limits:

<b>Aggregate: % By Weight Passing</b>	
3/4 inch	100.0
1/2 inch	95.0-100.0
3/8 inch	80.0 – 100.0
No. 4	20.0-50.0
No. 8	5.0 – 20.0
No. 200	0.00 – 3.00
<b>Asphalt Binder: % By Weight of Total Mixture</b>	
% Asphalt Binder	5.00 - 6.00

**413.4 Construction**

Perform all work to conform to Section 401 of the Standard Specifications and other applicable supplemental specifications and special provisions except when noted in this specification.

**413.4.1 Tack Coat**

Use a CRS-2P tack coat that conforms to Section 406.2.1.1 of the Standard Specifications and one that is included on Qualified Products List 38. Ensure that a tack coat of approved emulsified asphalt is applied at the rate of 0.05 - 0.15 gallons of asphalt per square yard to the existing pavement and to all vertical edges of the patched area.

**413.4.2 Temperature Requirements**

Ensure that the OGFC mix is produced within a temperature range of 245°F to 275°F at discharge from the plant. Ensure the mix temperature at the plant is adjusted to minimize drain-down in the truck beds when trucks arrive at the roadway. The ambient air temperature during placement of OGFC must be 50°F or above when measured in the shade away from artificial heat. This ambient temperature requirement can be omitted by the RCE if there are immediate safety concerns with the current asphalt surface. The temperature of the mix when placed must not be less than 230°F. All temperatures will be measured following the SC-T-84 procedure. Long hauling distances and excessive waiting time to off-load must be avoided due to mixture drain-down concerns.

**413.4.3 Spreading, Finishing, and Compaction**

Ensure that the OGFC mixture is spread to match existing grade and promptly rolled with an 8 - 12 ton static tandem steel-wheel roller. Cease rolling as soon as the OGFC is properly seated to the underlying surface (maximum of 3 passes). Remove and replace at no expense to the Department mixtures with uncoated materials or non-uniform distribution of asphalt binder

**413.5 Measurement**

Measure this work as specified in Subsection 401.5 of the Standard Specifications.

**413.6 Payment**

This work will be paid for as specified in Subsection 401.6 of the Standard Specifications.

Required Acceptance Criteria: Acceptance of this mixture will be based on SC-M-400 (or SC-M-400V as applicable in this contract), following the stipulations for OGFC.

Item No.	Pay Item	Unit
	Maintenance OGFC	Ton
4011004	PG 64-22	Ton